

Regional HOT Lanes Network Feasibility Study

Phase 2, Task 13 – GOVERNANCE REVIEW

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Introduction

The introduction of high occupancy toll lanes into the San Francisco Bay Area presents significant opportunities as well as the need to prepare for long term effectiveness. Whereas development and operation of general purpose freeway lanes and high occupancy vehicle (HOV) lanes have been considered to be within the purview of Caltrans (and, therefore, not usually subject to regional or local agency decision-making), HOT lanes involve new and different issues.

MTC and the congestion management agencies have significant interests in the HOT lane concept for many reasons including the potential to improve congestion management, contribute to increased transit services, obtain greater productivity from the freeway system, and notably, to generate added revenue for investments in the HOT and regional transportation system.

Decisions about trade-offs between HOV and HOT functions, uses of tolling revenue, toll collection systems, enforcement, and a host of other topics are needed. Caltrans is already moving toward the development of a managed lane business plan that will reflect the State's interests in these matters, and the Federal Highway Administration is promulgating program guidance that will require states with HOV lanes to maintain acceptable performance and encourage more proactive attention to lane management. Because of the potential cost and revenue implications involved, these issues are more complex than those affecting general purpose or HOV lanes. In addition, the public sensitivity to tolls and introduction of new services calls for significant involvement of MTC and outreach to the public and congestion management agencies. Organizations with an interest in the use of net tolling revenues (funds available after capital, operations and maintenance, and centralized services are paid for) have a keen interest in the revenue decisions.

HOT Lane Decisions in Today's Institutional Arrangements

Current HOT lane demonstration projects in Alameda and Santa Clara Counties are structured by state legislation that enables ACCMA and VTA to develop projects under certain conditions. Among those conditions are the requirement to coordinate with Caltrans on design approaches, construction schedules, and related topics. In addition, the initial net revenues from the demonstration projects are to be applied in the corridors in which they are generated.

It is in the public interest to consider the range of HOT lane topics needing decisions and consider alternative means of providing for such. Just as clearly as HOT lanes are significant to the local congestion management agency, a regional system is also significant to MTC, Caltrans, transit properties, and others because overall benefits that generate HOT lane demand are not achieved unless the investment performs as a system. For example, a 2003 performance audit of the Los Angeles HOV system found that fully 2/3 of the travel benefits being provided were lost where discontinuities in the system existed and HOV traffic was forced to merge into remaining lanes. Continuity of a HOT lane network and general public understanding suggest the importance of coordinated tolling policies, public information, and economies of scale as well as coordinated financing.

Clearly, Caltrans as the freeway owner/operator has the responsibility to assure that HOT lane design, operations, maintenance, signing, and related elements meet the State's interests. Just as clearly, the California Highway Patrol has an interest in HOT lanes being designed and operated safely.

Congestion management agencies, particularly those that have provided leadership on HOT lane development, expect that those lanes will serve local needs and provide an effective means of helping to finance related corridor needs and services.

The Bay Area Toll Authority through its role with the seven Bay Area toll bridges establishes the tolls, develops and installs the tolling equipment, collects and administers toll revenues, and coordinates with Caltrans and others on design and related issues. BATA manages, operates, and maintains the centralized computer system linked to the tolling equipment. In addition, BATA provides the tolling-related audit and financial control functions associated with the toll bridges. Discussions to date concerning the toll collection elements of HOT lanes have assumed that BATA will perform similar functions for the HOT lane network.

Applying lessons learned on development and operation of the freeway system, BART, and toll bridges, the San Francisco Bay Area would not have the transportation system it now has if all decisions were made on a purely local basis. No one is arguing for such a singular focus, but it will be important to be clear about the advantages and disadvantages of different decision roles.

If all corridors had comparable costs and revenues yielding comparable net revenues, this would be a simpler issue. Topics such as signing, design approaches, and toll collection systems appear to be simpler to address because

there is a good understanding of what works and a basis for maintaining consistency of practice. Revenue usage and tolling practices are more challenging topics, as evidenced by recent events in other areas, notably Texas, Georgia and Virginia, which have undertaken ambitious toll and managed lane programs. There are also good examples where regional policies addressing revenue and tolling practice have been put in place and tested which are acceptable to stakeholders, notably on HOT lane projects in San Diego, Orange County and Minneapolis.

Key HOT Lane Governance Issues

Table 1 on page 7 lists key governance issues concerning HOT lanes, based on the MTC study steering committee discussions generated in this study and from other projects and studies nationally. Not all issues need to be the province of just one organization. Furthermore, new institutional arrangements can be considered. However, it does make sense to make the best use of existing organizational capabilities.

As demonstrated by Table 1, there are several HOT lane topics needing coordinated decision-making. Three of the topics listed (pricing policy, toll collection practice and systems, and revenue usage) are unique to HOT lanes within the context of freeway-related decision-making and in various ways affect current HOV operating policies. However decision systems are structured, this interrelatedness calls for collaborative, coordinated, and multi-jurisdictional efforts.

It is useful to put HOT lane decisions in the context of other transportation-related issues dealt with in the Bay Area. Table 2 on page 8 identifies several transportation services and facilities in the Bay Area and the degree to which each is managed in a centralized or decentralized manner.

Experience with BART, the state highway system, and the toll bridges shows a common focus on regional decision-making, albeit developed in a collaborative fashion with local governments and regional agencies. If considered in light of decisions concerning public transportation in the Bay Area, HOT lane decisions involve a greater degree of continuity throughout the region and the high likelihood of creating a revenue stream capable of paying for some kinds of transportation investments. These two factors suggest the value of regional cooperation.

HOT Lane Design Approaches

A wide variety of HOT lane design approaches can be selected. These range from a “minimalist” approach as applied on I-394 in Minneapolis (noting, however, that I-394 which opened in 1984 is designed to more current standards than are most Bay Area freeways and is, therefore, more readily adaptable to HOT lane features) to HOT lanes separated from general traffic by a physical barrier, be it traffic channelizers or concrete. Based on collective input from Caltrans and CHP, the MTC review completed to date seeks to provide a HOT lane with a four-foot painted barrier between it and the general purpose lanes along with an interior shoulder next to the median barrier wide enough for enforcement, breakdowns, or use for merge and weaving sections where access is permitted between toll sections. (That condition was not found to be readily available throughout the Bay Area).

Caltrans and CHP want to provide for sufficient space for merge and weave lanes, enforcement areas, and a buffer between the HOT and general purpose lanes. Their basis for these requirements are the higher level of traffic the lanes will carry, wider mix of design vehicles and safety experience being learned from current HOV projects throughout the state. It is clear that this will be challenging in some corridors.

A governance issue involves how design standards will be established and in what circumstances prudent deviations from those standards can be achieved without exposing the State to increased liability.

Tolling Objectives and Practices

Decisions are being made about tolling objectives by the various partner organizations. While MTC’s HOT lane study has focused on maximizing the value of time saved for all travelers, ACCMA has focused on maximizing revenues from tolling. These two objectives lead to different pricing structures and will have different effects on the ability to manage congestion (as well as on how many carpools are impacted and much revenue is raised). Maximizing revenue can be expected to raise about 20 percent more revenue than would the objective of maximizing the value of time saved for all travelers.

A question that is important for MTC and its partners is whether there should be one tolling objective regionwide or whether different objectives are appropriate in different parts of the region. One could argue that a portion of the region that maximizes revenue from tolling would have a greater interest in use of that revenue than a portion of the region that applies tolling more for achieving travel time savings. In either case, there is expected to be revenue available for a

variety of possible uses (other than development and operation of HOT lanes). Historic precedent within the state has seen a wide variety of HOV design treatments and operating policies within the same region (and sometimes same corridor like SR 91 in Orange County).

Equity

An important consideration in infrastructure development and financing is equity. As assessed by local leaders two key questions are: 1) “Who pays and who benefits?” and, 2) Do those who pay benefit from their payment?”

As assessed by those with a regional or larger scale responsibility, equity involves those questions and a larger set of needs, a view that resources not generated strictly locally are open to consideration for a wider range of purposes, and a concern for proportionality of impacts.

Consideration of those topics helps shed light on how equity issues may be addressed in developing a coordinated approach to HOT lane governance. Table 3 on pages 9 and 10 reviews these equity questions.

Recognizing the Strong Interest in Prioritizing Use of Revenue

One can argue that it is of less interest to local agencies to deal with BART and the state highway decisions because while each provides access to the local area, each also has complex regional coordination issues and does not generate funds for other investments. Toll bridges by virtue of location and unique function do not lend themselves to local decision-making.

HOT lanes with their revenue generation potential can be increasingly of interest to local areas through which they pass. Where a HOT lane can generate significant revenue, its value is apparent to local, regional, and state organizations. With all such jurisdictions having more needs than can be funded from known sources, having a potentially significant on-going and growing funding source become available is very significant.

The state has provided a framework for setting regional and state priorities through the SB 45 process (which reinforces the federal transportation decision-making processes). This model features regional cooperation and collaboration wherein some funding sources are seen as principally usable for one or another

mode of transportation. Regional cooperation is the essential approach to developing decisions on funding priorities.

With HOT lanes having a potentially substantial net revenue stream (in the billions of dollars per year by the late 2030s), balancing of local needs and regional priorities will become a clear need. Developing an agreed-upon framework identifying eligible investments for HOT lane revenue and priorities for specific uses will require dialogue at MTC, at the local level, and with the State.

This topic also involves areas that are likely to be the locales for higher HOT lane revenue generation (e.g., Alameda and Santa Clara Counties) and some that will have either no HOT lane revenue (San Francisco City and County because no HOT lanes are being considered there) or a break even or net cost condition (e.g., Marin and Sonoma Counties). Because revenue generation is not the only reason to consider a HOT lane, all counties can have an interest in HOT lanes. These lanes can help with congestion management and can help improve transit services (especially for express bus transit services).

Because all counties in the Bay Area have an interest (and are likely to have an increasing interest) in HOT lanes, regional dialogue about HOT lane decision-making is needed.

The MTC Planning Committee meeting of December 2006 featured a brief consideration of governance when issues of regional cooperation and revenue sharing were briefly considered. In that discussion, the trade-offs between local control and regional priorities led to consideration of how those organization that have invested in HOT lanes recently (ACCMA and VTA) could see the value of their investments protected through some form of “hold harmless” approach while reviews of regional cooperation are considered.

Next Steps

MTC and its partner organizations need to work together to develop a governance approach that meets regional needs, addresses the investments made by demonstration project agencies, considers equity issues, and provides for useful benefits to the region.

Noting that Caltrans has responsibility for design in all candidate HOT lane corridors; Caltrans, MTC and the CMAs have responsibility for funding decisions; CHP has responsibility for freeway operation and enforcement; and BATA has responsibility for toll collection, no single organization will make all decisions

pertaining to HOT lanes in the Bay Area. There will be some forms of shared decision-making.

Selecting one organization to make HOT lane decisions is not the key issue. It is much more important to reach regional agreement on what results are expected from HOT lanes and how decisions about designs, tolling objectives, revenue collection, and revenue usage will be made.

Key questions for resolution include:

1. How will decisions about net revenues from HOT lanes be made?
2. What uses of net revenues should be considered?
3. Should there be one tolling objective regionwide or should different objectives be used in different parts of the Bay Area?
4. What HOT lane design standards should be applied? And, how will design exceptions be considered?
5. Who is allowed free use, and who pays and at what level? What precipitates a major change in who gets free lane use?

Table 1: HOT Lane Governance Issues

HOT Lane Topic	Relation to State Law (or established practice)	More Effective if Centralized or Decentralized	Other Topics Closely Associated With This One
Design standards	Caltrans (and FHWA) responsible for freeway design standards	Centralized because of need for continuity, safety and common understanding by the public	<ul style="list-style-type: none"> • HOV operations policy • Enforcement • Signing • Lane maintenance • Tort liability
HOV operations policy	Caltrans responsible for HOV operations policy	Centralized because of need for continuity and common understanding by the public	<ul style="list-style-type: none"> • Design standards • Pricing policy • Enforcement • Signing • Public information
Pricing policy	Demonstration project organizations for initial period	Centralized due to need for continuity and for ease of understanding because many trips cross county lines	<ul style="list-style-type: none"> • HOV operations policy • Signing • Public information • Revenue usage
Toll collection practice and systems	BATA authorized to collect and manage toll bridge revenues (and presumed to carry out similar roll for HOT lanes)	Centralized for economy of scale	<ul style="list-style-type: none"> • Signing • Public information • Enforcement • Statewide Title 21 requirements (and federal in future)
Enforcement	CHP	Centralized for economy of scale and continuity	<ul style="list-style-type: none"> • Design standards • HOV operations policy • Toll collection practice and systems • Signing • Public information
Signing	Caltrans	Centralized for continuity and ease of understanding	<ul style="list-style-type: none"> • HOV operations policy • Pricing policy • Enforcement • Public information
Public information	MTC, CMAs, Caltrans	Centralized for consistency and ease of understanding	<ul style="list-style-type: none"> • HOV operations policy • Pricing policy • Enforcement • Signing

Lane maint.	Caltrans	Centralized or decentralized	<ul style="list-style-type: none"> • Design standards
Revenue usage	Demonstration project organizations for initial period	Centralized for enabling accomplishment of regionally agreed-upon priorities; decentralized for local responsiveness	<ul style="list-style-type: none"> • Design standards • Pricing policy • Enforcement • Lane maintenance

Table 2: Centralization and Decentralization in Bay Area Transportation Services and Facilities

Transportation Services and Facilities	Centralized Decisions	Decentralized Decisions
BART	<ul style="list-style-type: none"> • System development • System operation • System financing 	<ul style="list-style-type: none"> • Project financial support • Station area site design and financing
State highway system	<ul style="list-style-type: none"> • Design standards • Regional priorities • Project development • Operations and maintenance • Enforcement 	<ul style="list-style-type: none"> • Project financial support • Project development subject to State oversight
Toll bridges	<ul style="list-style-type: none"> • Design standards • Regional priorities • Operations and maintenance • Revenue collection • Priorities for use of net revenues 	
Sub-regional transit systems	<ul style="list-style-type: none"> • Regional funding priorities 	<ul style="list-style-type: none"> • System development • System operation • System financing • Routes and fares • Use of revenue

Table 3: Equity Considerations in Bay Area HOT Lane Development

Equity Considerations	Impacts and Effects
Who pays and who benefits from HOT lanes?	<ul style="list-style-type: none"> • HOVs in the HOT lane are given priority by virtue of keeping the HOT lane functioning for HOVs • (If HOV lane vehicle occupancy requirements need to increase, it will be due to HOV congestion and not from presence of tolled vehicles.) • Drivers and passengers of tolled vehicles benefit from faster travel times • Drivers and passengers in general purpose lanes benefit from having somewhat fewer vehicles (due to some paying tolls and traveling in the HOT lane) • With a median home to work travel distance of over ten miles and a likelihood that tolled vehicles are making longer trips, it is likely that a high proportion of tolled vehicles will be making trips that involve two (or more) counties. (This should be assessed further in refined travel forecasting associated with HOT lane development.) This suggests that revenues on a HOT lane in one county are not likely to be from just that one county's residents. • HOT lanes can improve traffic flow and make better use of freeway capacity whether or not an individual lane produces net revenue. To achieve such improvements regionwide, it may be necessary to have net revenues shared across corridors.
Do those who pay benefit from their payment?	<ul style="list-style-type: none"> • Those toll-paying travelers benefiting from a HOT lane receive benefits in proportion to their payments (recognizing that proportionality will need to be assessed in future reviews). • Non-toll paying travelers in the general purpose lanes benefit from somewhat reduced congestion in those lanes.
What needs can HOT lane net revenues help to meet?	<ul style="list-style-type: none"> • HOT lane toll revenues can cover the cost of capital, operations and maintenance, and centralized services for most corridors in the region, thus providing a self-funded improvement in capacity and reduced travel time. (Some corridors do not cover their internal costs and would be dependent on net revenues from other corridors or other sources of funds for their development and operation.) • Candidate expenditures for HOT lane net revenues are not limited (other than for the initial period of demonstration project revenues) but are likely to include increased transit services, pavement maintenance, and support for other regional projects.
Equity	Impacts and Effects

Considerations	
To what extent are HOT lanes in one corridor related to travel or needs in other parts of the region?	<ul style="list-style-type: none"> • HOT lanes in connecting corridors (e.g. I-80 to I-680) are clearly related and depend on having freeway-to-freeway HOT lane connectors. Expenditures in one of these corridors affect the feasibility and operations of the HOT lane in the related corridor and in many cases will influence overall benefits and demand. • HOT lanes that connect to toll bridges (e.g., I-80 interface with the Bay Bridge and Carquinez Bridge) represent segments requiring special attention for tolling policies and traffic operations planning. • Some corridors (e.g., US 101 in Marin and Sonoma) do not connect to other HOT lane corridors under consideration. Traffic continuity and operations issues are contained within these corridors and do not involve other corridors. The issue of whether revenues from one corridor can be applied in another corridor stands out as key for the isolated corridors that are not likely to cover their full costs.
Are HOT lane impacts distributed or perceived in proportion to benefits?	<ul style="list-style-type: none"> • From the users perspective, only those who believe the toll is worth the travel time or reliability gained through using a HOT lane will pay the toll. However users want to know what they are getting for the toll (i.e., posted travel time savings or speeds on the HOT lane) • Whether lower or middle income travelers will make use of the HOT lane opportunity will depend on the tolls and the relative gain in travel time and reliability. Experience on other HOT lanes demonstrates that users from all income groups use the HOT lanes (albeit with a proportionally greater segment of middle to higher income travelers using such lanes). Evidence from monthly traffic reports generated on the SR 91 and I-15 HOT lanes shows average use of 1 in every 7 to 10 commute trips, suggesting a discretionary basis for decision-making across most socio-economic levels. • Construction period impacts will depend on the individual HOT lane construction plans.